

Brasil 1976

①

**29c**



**NOTE BOOK**

**75 SHEETS**

No. KB-3387

No. KB-3388

TOP OPEN  
SIDE OPEN

Brasil 1976

1<sup>st</sup> Separi

2353 K, MO, NY

wings on both cor

2357 (2356 best shot in  
Manaus-

2357

April 3, 1976

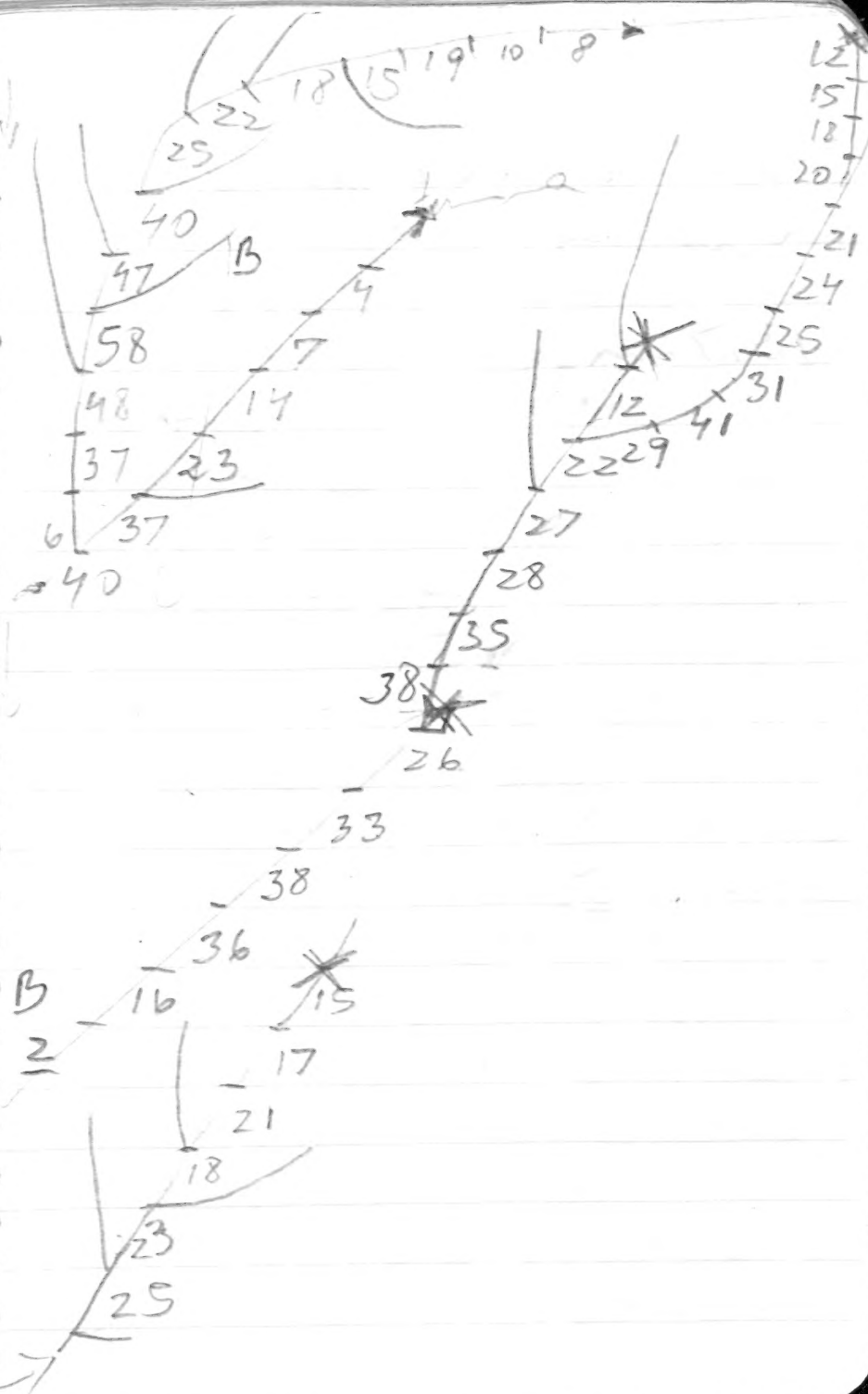
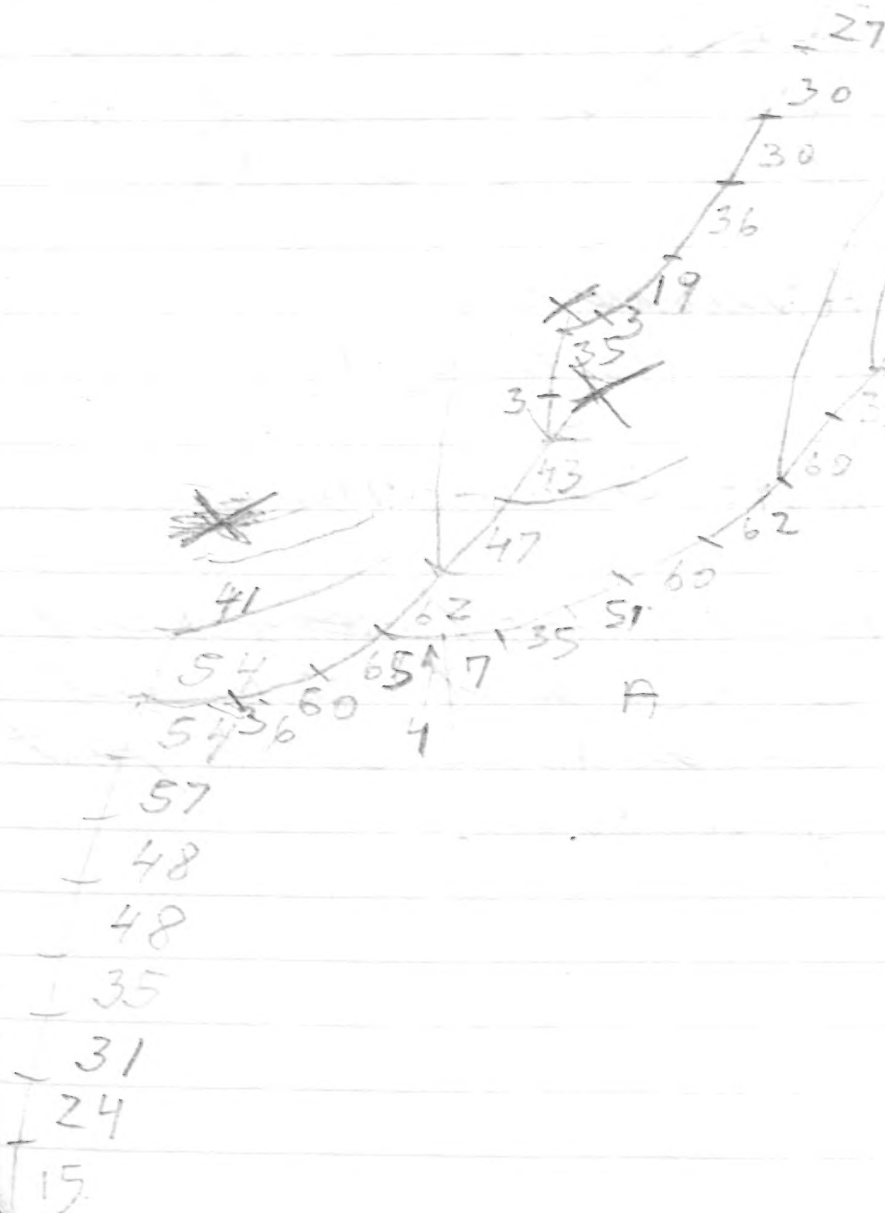
Itirataie. 373 Km on the  
cruised. 12 Km from  
Itirataie, small pine  
type con B. 101-

~~Atractantha~~

Atractantha sp.

Alt = 350 - 400 m.

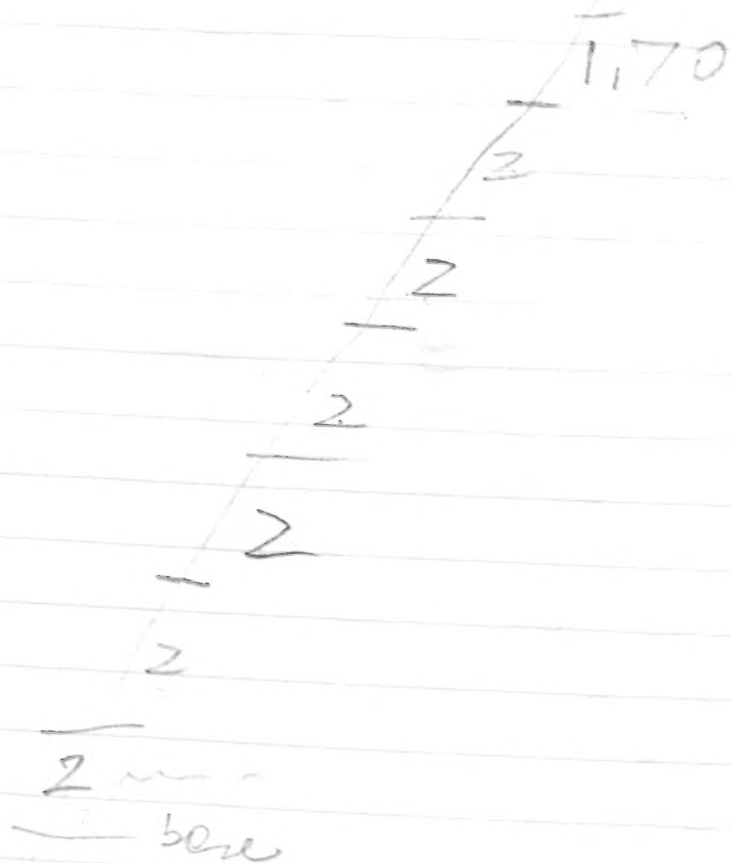
Forest, most ~~of~~ cut  
down and disturbed  
especially in lower part  
of mbrs.





Total to use plate  
on roads

13.7 m.



Abundant in ~~disturbed~~  
forest, dominant in  
higher part of woods.  
Dominant, ~~Abundant~~ 1  
Delicately thin, small  
leaves, climbing,  
and leaning over other  
plants and trees. Very  
weak and thin ~~with~~  
culms, overhanging

One main branch dominant  
with a crown of small  
ones at the base. That  
central axis most of  
the times takes over  
the main culm (whether  
broken) and takes the  
lead, keep going up.  
In time, another central

axis of a latent such  
continue going.

looks very small, low  
specially in upper part  
of hill, where forest  
in ~~less~~ more dense  
and darker. Many  
new culms, very  
thin, even for no more  
than 3 m, then  
weak and airy.


Culms solid, flexible  
thin, the very old at  
the base ~~is~~ ~~are~~ up  
to 1.5 or 2 (very few that  
thick.) Culms with a  
ring of air canals  
near the walls.

Surface of culms very  
smooth, no hairs or  
wax.

Dark green.

bluns small ~~not~~  
sometimes no more  
than 6-8 - no  
more than 0.5 m. in  
diameter.

A ring of stiff hairs  
at the base of the  
culm sheath, on the  
node.

Culm sheath persists  
at on the new culms,  
only late deciduous  
act when the branches  
start to grow and  
expand. New culm  
leaf blade horizontal  
to reflexed; , many  
times curved, ~~concord~~  
concorded.

In the same mono  
in lower parts mixed  
with a Heritiera of  
which ~~that~~ seen. It  
grows up the hill-  
side of small, narrow  
very thin & delicate  
They do not roll up  
easily when culms  
are cut.

Culms up to 14m  
±; but most of  
them very thin, 1/2cm  
in diam. and very  
small.

FAA: 3 nat.

2 large with mouth.  
with buds & stipes  
and culm pieces.

1 (50cc) with leaves.

3 small clumps collected  
for cultivation -  
Photos:

W. & B. roll 13. (± from  
15 to end. and roll  
14. beginning to 4

lots: Ekta name:

roll (15), from 1 to end.  
lost 6-8 pictures with  
wide angle.

beautiful forest.

K, MO, MY,

April 4

2358

~~2358~~

*Merostachys dermatis*.

Mun. Tibistaria, 23 Km  
N; NW of Tibistaria city.  
On top on slope of  
hill - "cancallera"

Alt. 250. ~~Bar~~ + 17-

Photo B. & W. Roll 14 (405 to end  
+ 2 barrancos

Extremore roll 16;

1 to  $\pm 1/2$ -

In <sup>natural</sup> forest, at present, Big  
being partially cut.  
Forking + small clumps  
about 60-70 cm in diam  
not many culms in it -  
climbing, only the new  
culms erect for about



5-6 m, then leaning  
~~on~~ on banks and  
trees.

~~All~~

± 13-15 m tall - long  
internodes.

Bark hollow with  
thick wall, ca. 2-2.25 cm  
in diameter. Surface appears

"lumpy", light & very dark  
green ~~spotted~~ ~~mottled~~ (can  
branches clear young).

Nodes thick, a little  
prominent, covered by a  
velvety dense, white web of  
white, silky hairs. The  
node in itself, below  
± 2 cm and above the  
ridge ± 1 cm the white area.  
Bark leaf deciduous at

young shoot

14.70 m.

14.70

2

2

2

2

2

2

2

Adult plant.

\* 42

52

59

64

67

75

76

79

87

90

89

81

77

65

62

58

66

62

32

12.76

0.76

2

2

2

2

2

2

the beginning of the bud development; culm leaf blade narrow, & reflexed deciduous early. Culm leaf with strong 7 color light-dark striations. Branch Bud complement One prophyllum (with 1? or 3? buds) in the nodes of lower part of culm. Early development: 3 very strong, similar buds adjacent in one line, each with its own bracts & prophyllum. Original prophyllum very white, large and dark. Branch complement ~~of~~ initial primordium five rise to 3 branches



Usually one of the side  
bud ~~at~~ start develop-  
ment (on the side  
the sheath opens).

It forms a branch  
complement of 3  
equally dominant  
branches. Late, (sometimes  
early) each one will  
give one side branch  
from upper nodes of  
upward base of primary  
branch, sometimes, in  
older culms, a second  
branch is born on  
~~the top~~ on upper node  
of the 1<sup>st</sup> axi-  
1<sup>st</sup> axi (3 =) very thick  
much more than  
main axi of culm.

with base inflated, coars  
by several short bracts

Base of these axi is  
~~with~~ represented, a series  
of very short, but  
distinct internodes.

In the 2<sup>nd</sup> branches  
almost always res-  
pond 1 or 2 "roots"? but  
or would, tip prominence  
culm ~~has~~ not divided.  
only branches at nodes  
bracts with leaf comple-  
ment very large, 90-  
1.25 m  $\pm$  long - with  
several ~~leaf~~ leaves.  
leaf blades very large  
long and wide, thick,  
smooth, flat -  
oval ~~with~~ etc. several

are long, white, silky,  
curly just the tip -  
white ~~very~~ long hairs  
only at tip & recurved  
on edge of sheath.

M. ternate seen in  
another hill  $\pm$  14 km  
south of this locality  
(The original one of  
1972) At present  
only vest of that  
original forest M.  
ternate is almost  
gone, a few plants  
are ~~scattered~~ surviving  
now. In both locali-  
ties M. ternate is in  
the lower parts of  
the hill slope, then

starts Merobary sp -  
(may grow, then culm  
& the, small leaves)  
and in the upper parts  
of hills only. Atracta  
seen in the first area  
and Atr. mixed  
with another ~~set~~  
set M. in flower  
in this hill.

M. ternate grows in  
beautiful, wet forest  
tall trees, with  
many lianas,  
~~stipitate~~ & climbing  
plants.

In this area grow:  
M. ternate in the lower,  
part, then Merobary  
the leaves (CEC. 2359).

A little higher. Mercur  
thick mixed with 1.  
Mercur. On upper slope  
of hill M. - West (in flower)  
and some Strait. 1.5g

FAA - 2 large nids with  
leaves - 1 small so with  
leaves.  
rhizome collected -

359  
the leaves.  
April 5, 1976  
Dun. & Thirataria, 23  
km N-NW of Thirataria  
city. On upper ~~part~~  
slopes of hill on  
the right side of road  
concretely with main  
BR 1001 -

Small delicate Mercur  
dry in rather small  
clump, weak, thin  
culm, climbing to  
leaving over vegetation  
bulb and culm  
leaves very sparse -  
dark green - not  
bulb thin 0.75 - 1.25 cm  
in diameter

Week Santos, climbing  
may break x node  
breaks thin with  
less small, thin -  
bud complement in  
typical Menziesii, steel  
type -

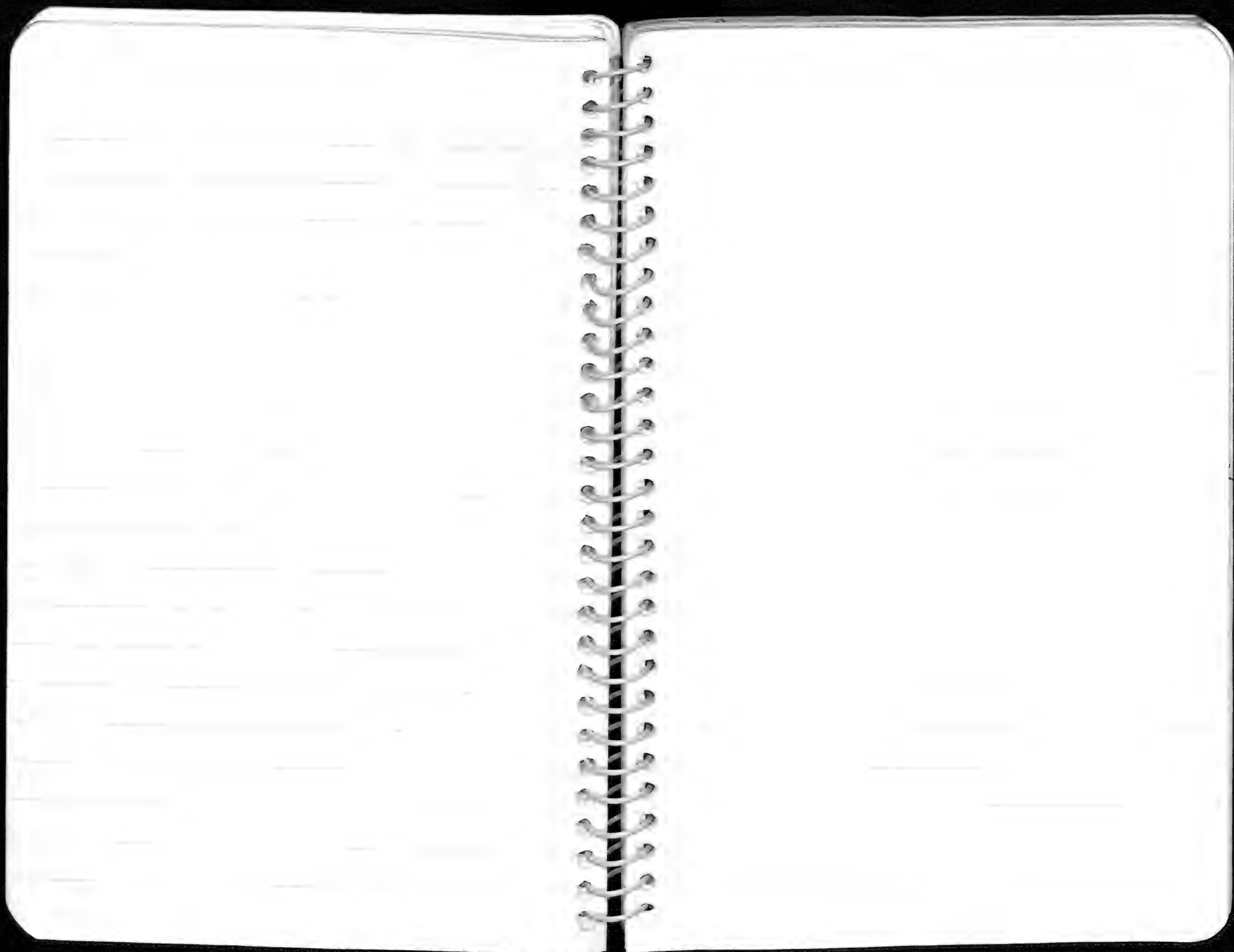
It grows in some place  
in association with  
rest Menziesii -

F.A.A. 3 vials 2 with  
bud, 1 with leaves  
Pigeons collected -  
no holes yet

Node without upper ridge  
not protruding, it will  
with the last, own it.  
Probably check in the

How almost very scarce  
faint, not so abundant  
as in the other Herata-  
chys.







April 5,  
Pirineia

2360

23 km. N<sup>N.W.</sup> of Thinstara.  
the road winding with  
BR 101 - Fijerda  
Maudonia.

Alt. 250 -

Common in shaded  
places of forest, with  
rich leaf mold,  
near base of trees or  
fallen trees.

Many infls from the  
base in long slender  
culms - only 2 plants  
with infls on main

encl -

FDA - 1 vial, less a inflor -  
bag - 1 " flower -

2361

same locality -

Alt. 250 - 275.

Pteridophyte -

In humid forest  
with many other plants.

Pinnis, etc -

Bright bluish green  
completely different from  
the rest of all other  
seen in forest -

Specimen collected to cultivate

2362

April 5 -  
Same locality.

Alt. 250 m

Zenaidura :

At the edge of forest  
on steep slope

2863

*Telostoma* -

Same locality - Alt. 250

At edge of forest  
on slope, near  
*M. ternate*

April 6

2864

*Mercurialis* sp. (v. 3)

Wet, thick forest.

Same locality, in forest  
part of slope -

Alt. 250 m.

low alt. on lower  
Horn M. Ternate  
Thorn + large  
clim. - (in tent area  
near edge of forest  
- climbing up to 2.5  
m in stem, thick  
walls, bark green  
mottled or mottled  
wine color, aspidium  
and covered by a white  
wax? or powder -  
Node very thick,  
prominent ridge,  
short black, like  
leaves.

Thick, branches  
very short stout  
and very pubescent  
growth at the base

See the union  
of 3 buds in large  
old culm in lower  
part. ~~the~~  
bud start developing  
from side of sheath  
opening.

At V the bud forming  
several branches  
but always very thick  
culms, ~~not~~ already  
over-representation  
leaves leaf blade  
narrow, reflexed  
and deciduous.  
leaves wide  
1

FAA - 2 vials, fresh  
and dried.

far from ripe  
collected

Photo: B x W h' roll #  
17, 121 to 36

color. h' roll # 16  
28 to 37 -



April 6 K 2365  
 Olyra (murethae) scutell

Same locality, on upper  
 part of slope -  
 Alt.  $\pm$  300 m -

Large clump, culms up  
 to 3 m -

Some old inflorescences  
 and in the same  
 plants in lower #3  
 node a huge, sun-like  
 bunch of leaves with  
 small leaves -

Beautiful forest, with  
tall trees, many lianas  
and climbing plant  
epiphytes.

Some of the tree:

~~Guera~~ Gueraua branca  
Gueraua semialba →  
Leguminosae, Mimosa  
Parkia pendula -

J. Karea: ~~genus~~ Mutigaya  
Leg.

Louro: - Lauraceae  
Ocotea or Nectandra.

Araca: - Myrtaceae.

Oiti: - Burseraceae

Oitizica: Moraceae

Pau pombo: Anacardiaceae

Tapirira guianensis

Bapeta: Sapotaceae

Sumora peto: Moraceae

Piqui preto: Barioacanthaceae

ser. Barioacanth

Jatoba: Legum. Benthianaceae

Heminea corfarina

tararanga Moraceae

ser. Pukuma

2366

April 7

Same locality (same  
to Meristichys)

Alt. 300 m.

Seedlings of M. in pines?  
(multicaules?)

Many seedlings of # size  
some still very small  
around dead classes

maltireneo?

Merortoky - <sup>just</sup> - 2367  
April 7, 1976

Mun. Linstaic, ---  
same loc. (kno do  
Merortoky)

Alt. 300 -

In upper part of hill  
in large clump, all  
dead and without  
of flowers ~~can~~

Seems that plants  
had flowers for long period  
all culms with no leaves  
but in flor. Only in  
one or 2 culms still  
some culms a little  
green. and only in one

we saw a new culm  
and ~~another~~ with  
bracts and green  
but no flowers. It  
was next to a dead  
culm. Still thin -  
Old culms very rot -  
± up to 4 cm in  
diameter, thin wall  
apertures, Node not  
thick nor protruding  
but marked on  
one side by 2 lines  
(inversion of culm  
sheath?)

Probably up to 15-20  
m (not measure)  
They ~~do~~ think that  
the bamboo had  
died probably no more

Then 3 months ago  
for the ~~first~~ to settle  
over. 3 months

In the same area is  
abundant and growing  
in association  
Atriplex (same  
as 1<sup>st</sup> collection).

Islet gamopetalous, pieces  
of culms, herbarium  
PAA (for the first one)  
buds & leaves (2 nals)

Node with somewhat  
white hairs -  
Internode asperous -  
culm sheath persistent  
at base -



2362

Aug 27

*Merostachya* -

Mn. Shirataia, 12.5 km  
from N of Shirataia city  
on right side of road -  
(same loc. where I collected  
M. ternate in '92) - Rangel  
connecting with BR 101  
Alt. 275 - m -

Photo - no time -

FAA - 2 nals -

very large white wood  
with buds

and small with buds -



In lower to medium  
part of slope of hill  
partially cut down  
and destroyed.

Form ± less dense  
clump. overarching on  
vegetation. In some  
places, the higher in  
elevation with  
*Atractantha* sp. From  
then up - only

*Atractantha* dominates.

culm prostrate, thin  
wall - ca 1.2 - 1.5 cm  
in diameter, <sup>very</sup> smooth  
and glabrous, bluish  
green, covered by waxy  
powder, white -

Nodes without thick  
ridge, sheaths without

= 7.82 m

sclerotic, ± white  
narrow band left over  
for sheath?

Many bracts per node  
small - medium thickness  
in typical Menziesia  
bud arrangement?

Bud complement with  
one large perianth and  
several? bracts, I saw several  
or at least a few even  
in lower nodes of  
culm.

Culm sheath deciduous  
persistent but not coherent  
with reflexed, caducous  
blade -

Leaves lanceolate, narrow-  
median to small size  
few and short and

setae -

April 8.

2369

Herpetology.

Par. São João

44 km N.W. of Ipom

old road road road E

from N. to C. road. Jpg -

from a photo (arrived)

Ipom - Jpg - 28K

see next -

Alt.: 750m.

Top of hilly region  
with beautiful dense forest

"More type of forest, dense  
 thin trees not very thick  
 many palms <sup>some</sup> on top of trees  
 Palms: "orica" photos  
 taken color & B & W.  
 Another yusara (they  
 collected in Porto Seguro  
 Orica 2-3 m high  
 with fruits -

Morotachy ~~very~~ abundant  
 under the trees. culms  
 1-1.3 m high, very  
 smooth, covered by white  
 wax, node smooth  
 not prominent.  
 Culm sheath smooth  
 blade reflexed. cespitose

at end wall this  
Delicate Santos, with  
thin small leaves -

It is similar to the  
one collected yesterday but here  
leaves have white  
long very curly oval  
retic. - Like wool-  
bud complement.

sheath Menziesii type  
typical -

Forms dense clump,  
climbing over, repeats  
but lower than  
tall trees -

We saw this Santos  
at much lower elevation  
350?± but less shade.

look similar in part  
to Menziesii sp. (BBB  
# 2368) but that (2368)

has thicker culms, larger  
leaves, in forest looks  
a little more robust  
and. This one has  
thicker, curly, oval retic.  
the other one few and  
short.

Forest is finer than the  
one on the other  
side (Fay. Macedonia)

FAA. 2 nodes, one large  
with bud, 1, 50cc with  
leaves.

Plots: B. & W. roll.

Roll 19, for signing? to



half? ~~and~~  
color Elektroden roll 21  
or (18 to 21?)  
↓

to the front on passage  
the jagged line cuts a  
forest of pyramidal  
dunes, triangular, when  
change takes place  
in the angle of the  
dunes.

2370

Put into the

3 km from entrance of lagoons  
 41 from Zia (25 from  
 road to Aguasene).  
 Photo. B & W - roll 19 (27-36) a  
 living flat wetland.  
 (3 ~~sets~~ pairs of  
 eggs)

A hand-drawn diagram of a line with four tick marks. From bottom to top, the numbers are 2, 2, 2, and 94.

Lot 17 roll # 22



Very abundant in dense  
forest  $\pm$  from 650 -  
near also 600 and  
forest, some lower  
climbing forming thick  
mats of branches  
with trees and other  
plants.

Very difficult to cut  
down "one" plant -  
keeps spreading over  
other and so dip  
and branching.

Leaves  $\pm$  thin.  
at base of old ones:

Young culms dark about  
black green very smooth  
flexible,  $\pm$  0.5 m.  
a little

etc.

2.5 m. in diam. 20  
m. 1.5 m. in diam.  
to the old ones  
which are dead

1.5 m.

1.5 m.  
1.5 m.  
1.5 m.  
2 m.

leaves ~~into~~ peristome  
and side lobes  
when brachy start  
to develop. and it's  
push out. It falls  
very late, sometimes  
peristome very old.

Leath with black  
bristles first. Longitudinal  
to replace a little but  
usually with black  
curl in concave  
fashion up 74  
~~note~~

Back of sheath with  
thick collar scar at  
base on dorsal side  
band of stiff golden  
hairs toward pit  
like eyelashes.

brachy in transverse  
in development.

One central brachy  
sometimes not developed  
on both sides may  
very small, and  
all equal 2° brachy  
bent one with  
upward base. Very  
fragile and brachy  
developed and long  
on each weight.  
Plant keep brachy  
and a brachy.

Very weak plant to  
be erect for more  
than 2 meters.  
Some seen climbing  
very high on trees  
but along side

Sclerost plant -  
culs  $\pm 1.2 - 1$  cm in  
diameters.

Leaf thin small  
seen the same of  
Himataia (alt 2357) but  
much taller.

Beautiful here, close  
forest.

Oral setae a little curly  
also golden.

I also saw mixed with  
Atractodes thick Mercuria-  
lids. seed, flowers not seen  
to rotunda and old, it seems  
same as in Himataia  
M. multivirens?

Sept 9

2371.

*Hemioconus glaberrimus*  
*Spach.*

Alt. 320 m?

Fazenda Jusara

Município de Japunaquara

4.5 km N of Apudema

on road to Japunaquara  
(~~at~~ right side of road)

Hilly region, on both  
sides of road.

Lower part and middle  
part of slopes have  
been cut down, only  
on the top part  
remain, sometimes  
seen this is disturbed.

---

52 km from Ipiaú

6.33  
tell

6.33 m  
+ all

Growing at near the  
edge of ~~cut~~ front  
(rest of cut down  
area) in higher part  
of slope of hill.  
Higher up only Heron  
chips (rest of Glaukolepis  
c.c. - T. #2368)  
Banding over repeat -  
medium chips not  
crowded -  
bulk 2.25 - 2.5  
found only 1 piece  
old & rotten very  
thick 3.5 about 4 in  
bulk mostly  
sometimes sticky appears  
in some part of the  
float



Nodal zone with 2  
ridges, with leptos  
of pith for  
sheath in  
lower ridge



Sheath + pubescent blade  
erect with annular zone of  
tuber, like *Bambusa*  
persistent, only late  
deciduous, with ~~pubescent~~  
ferruginous, and  
with vine color  
spots. (natural?)

culm hollow + thick  
wall, green with some  
very small hairs, shiny.  
no pub.

Bud complete: in  
lower node only one

small bud (?) at least  
one prophyll near.  
Develops a central  
main axis and 1, 2 & 3  
on each side, much  
smaller. On thicker  
new culms the central  
form a thick branch  
very long. In others  
is not so dominant  
thick branch with  
the culm sheath almost  
persistent or late deciduous  
and long prophylls  
culm sheath persist  
very late, dried and  
tan color, like  
dried leaves. Not  
spines -  
It does not look like



typical bamboo to me,  
at least the ones I've  
collected before.

Grows in a small  
area, probably the  
rest of what was  
before a beautiful forest.

Photo B & W. ~~will~~ will #20

1 to - 14A

Ektachrome - from ~~15-17~~  
to ~~18-20~~ (with ~~18-20~~)

FAA : 2 rats - large with  
buds, small with  
leaves.

1 small bamboo collected  
for cultivation.

leaves very smooth  
long, narrow -

with quite asymmetric  
midrib.

culm sheath thick, especially  
at base and fibrous &  
when they fall they leave  
fibre attached to node

In some area we've not  
collected Newbouldia from  
São João.

leaves - I collected  
in area of city  
the bamboo

April 10

2372

*Cardinalis*

6 km from Apurimac  
toward Jazmín  
on road Ap-Jaz.  
From a field 5.3 km

Alt. 275 m.

Mun. de Jazmín

10.20  
medial logi  
total

lower in small patch  
of forest, rest of  
cut down - on a  
smooth slope.

thin twig, very scirpoid.  
About 10-11 cm or  
probably more, break  
down of the branches  
when I pull down.

break thin to 1.2 cm  
diameters - solid and  
hard, <sup>a little</sup> woody  
at base, <sup>a little</sup> softer upper  
parts, "lign", <sup>expansive</sup>  
at base of internode  
above branches.

Node wide basin, a pointed  
ridge. No petioles.

~~One~~ One central very  
laminated & thick

back, and may, may  
thin on both sides  
Prophylla a bracte, white  
to bracte.

culm sheath persistent  
in lower part culm  
when no bracts develop  
they dry up and wither  
off culm. Very thick  
at base and lower  
side, with thin

papery edges, sometimes  
quite large and a  
~~small~~ row of auricle  
or expansion of  
sheath at base on  
opening. On the  
back a very thick,  
prominent, dark,  
black sometimes.

collar. Sheath very  
to thick and some  
pappery and mucous  
on edges, very white  
sometimes or at base -  
white?

Also very small, few  
noticeable oral  
retae.

Culm when very thin  
no so much mucous  
tears, very thin, delicate  
small.

FOA Bud.

fol. 8 W in roll 20 and  
1/2 of 23

older Ek. 22 ft or ~~20~~

and drying of 24

brakes with leaf

weight bracketed

at base, with very  
small internodes.  
In some recent forms  
Merostachys - thick herbs  
collected in Thunbergia (concolor)  
no collected here.  
Here Merostachys forms beautiful  
shrub, tall and thick.

N. 2373  
R. 110  
Albinia filiformis  
same locality 10. April 1976

Only one large clump  
found under shrubs  
in  $\pm$  open and  
 $\pm$  disturbed sea view  
edge. Near Atlatla the  
Tall, thin, and weak  
clump  $\pm$  1 - 1.20 m  
not ~~very~~ erect but  
blend over with the  
rest in fl. Flowers  
white.

F.A.A. leaves & spikes  
Photo. Box W, Roll 20 from 22  
color Ekt. roll # 24, ~~roll~~ 29 to 38  
of roll # 22 (part in rest  
roll 24?)



31.32.12 1.2 + 2 + 1.90

10.22 m



April 10

*Monarda bitorata* 2374

*Benthamia quadrata*  
in fls

Alt. 750 m.

Summit

of Apur-  
ul to road  
46 km from  
at road (A  
Tian)

in fls,

rec-  
all #23

24 (18 to 32)

K.M.

46 da Entero

3 de Fervor

62

46

---

16

2 + 32 + 2 + 2 + 1,90

10,22 m

April 10

*Monocaulis hirsuta* 2374

*Benthamia fruticosa*  
in fls

Alt. 250 m.

Mun. de Japnaguan

9 km N.W. of Apur-  
ena on road to and  
Japnaguan (46 km from  
entrance of that road &  
61 km from Apurina)

FRA: 3 : buds, inflores,  
leaves -

Seg. 1 : inflores -

Photo: B & W. roll #23

Ektoch. roll 24 (18 to 32)

culm diam. 2.5-3.5 ~  
cm with max.

in. entr -

sheath with golden brown  
stiff hair,

~~the~~ culm free <sup>edge</sup>  
by white hair <sup>like root</sup> or max

come off by rubbing

Node not prominent

small narrow black  
ring, rest of sheath

whenever removed

culm sheath very

late deciduous, with

erect long & rather

large blade, auricle

long oval rib

Back with long brown

golden hairs, very

stiff, hard to touch

But as plant, one  
but seen from in culm  
back with: start

a large main shoot  
and 2, 3 or several  
much smaller shoots

at nodes. Beautiful

bracts covering culm

culm with very  
thick woody walls, very

small thinner in

small shoots.

In ~~one~~ a few spots  
in glaucous, very long!  
spikelets



2375

April 11, 1976

Chungue (Rittergine) 1/4 -

Mn. Japneenare, 38 Km  
SE of Japneenare  
city, on road Japneenare  
Ppneenare -

Alt. 350 m. + ~

Forest on hills slopes  
and from top to edge  
of stream -

Very abundant on lower  
part of slope and  
along the stream  
and along road -  
Whiting bamboo, oak  
tree, herbs and

leaving over other  
repetitive - but did  
notation - in  
about in in  
sites.

bulbous sheath very  
first, scabrous with  
blade narrow acuminate  
event, almost without  
transition

Nodes thick, promi-  
nent zone with  
2 ridges, like a  
leathery band, very thick  
about 1/2 inch or A  
membranous extension  
of base of sheath  
extends forward  
covering the buds.  
It breaks, the vine

is implemited in at  
center - Then the tip  
of bud push that  
most away.  
Bud complement of 5-  
seven in a ~~ray~~ are  
around a central one.  
Three developed first or  
Are they really all independent  
prophylls? After the  
opening of that "capsule"  
brakes they look like  
Menstrualy.  
Buds ending in large  
- med. leaf complement  
with a thick,  
black node near  
base, as an artic-  
ulation.  
Plant look now

full developed and  
mature with  
old culms woody  
and strong at  
base

bristles with leaves  
develop in opposite  
direction from apex  
of culm

Articulation of  
axis, (bracts) of  
leaf-complement  
very noticeable, toistic

leaves, type of  
tissue, stalk.  
Sometimes for that  
node a small  
bract with leaf  
develops

Tall barbed cane

nodes  $\pm 18$  m.

diameters  $\pm 1 - 1.75$   
spurs 2 in larger

FRAA: 2 rich, but 2  
leaves

Plots S & W. roll 25

late 25  $\pm$  7 last part of roll 24?

color Ektach. roll 25 <sup>(26)</sup> vante

78-301 - (last also of roll

~~24~~ 24, 33 & 34. All same

with Kieselsohn!

35 to 37.)

April 11, 1976

2376

Newbury (prose!)

Alt. 550 m -

Mn de Japaguera

Rel. Jap. - Apurimac

35 Km. from Japaguera  
city.

Near the road on  
west of fort, ~~the~~  
growing on ~~the~~  
bank of savanna.

The same bamboo seen  
several km. ~~the~~ + and  
in a fort on steep  
slope abundant.

FRA - 2 vials but a large  
photo: ~~6 vials with 25 + 26~~ <sup>no</sup>

Ekte: all color with 26 - later  
or 25 30±

tube about 20 cm in dia +  
 long tent was 16 cm  
 large diam of thick  
 culm erect and  
 bending over at top  
 with very dense  
 crown of branches  
 at nodes  
 culm ~~was~~ smooth  
 free,  $\pm 3.5$  cm diameter  
 or more. 4 cm.  
 Nodes thick (as to  
 like in 1<sup>st</sup> thick stem)  
 Nodes with thick leathery  
 black band, sparsely  
 in thin bark  
 Many, many thick  
 branches x node.



Bud complete  $\Delta$  shell  
with sometimes 3  
lines of buds  
leaf sheath smooth  
very soon deciduous,  
thick, brown dried color  
smooth, striate,  
narrow above with  
reflexed, small blade  
very soon deciduous -  
leaves rather large  
narrow lanceolate  
glabrous, no oral setae  
leaf sheath shiny  
brown inside

April 12

2377

Atractantha (ouranota)

Mun. de Japareguara, 22  
km SE of Jang. city  
on road to Apuãrema

Alt: 650 m. s. m.

Herb of forest, at feet  
small patch of  
capoeira. Very abundant  
all over under the trees  
and climbing on crowing  
Does not form very  
large clump but  
covers large areas  
branched and branched  
short in fruit to  
show where one culm



end - robust, and  
keeps going. Look  
like *liriodendron*.

Culm very little or not  
erect and self supporting  
bending, crawling or  
arching over itself.

Moist bark, in time  
extends and goes farther  
up a so on -

Culm solid, on base  
of plant, thick old culm  
very hard, midrib  
and thinner branches  
no so hard; herbaceous  
texture. In these late  
branches a very clear  
ring of holes can be  
seen near the epidermis  
at base, in young

culms not seen. Surface  
of culm very smooth  
green; shiny in  
sunlight, brownish red in  
dark. Culm of  
O section (same as  
section the last street.  
with ear in mouth.)

Culm sheath persistent  
only push away when  
branches develop, may  
remain in the plant long  
time. Sheath smooth  
glabrous with long  
~~and~~ white - or gold, with  
oval setae, densest  
along margin.  
Lignous very little  
developed in thick new  
culm or not developed  
in old bark.

Thick band of golden  
hair at base of sheath  
and node. This one  
seems to be deciduous,  
the hairs fall. They  
are present in new  
culms. In many  
branches is not upper  
there.

Nodes with prominent  
ridge. (Lancea nitida  
foliosa lanceolata)  
Culm rounded and  
curved on the opposite  
side of bud.

Bud compact with  
dominant central  
axis, several (but  
not many-ray)  
branches on either side.

and prophylls very ~~developed~~  
sometimes, high in  
branches main branch  
does not develop.

Branches of 2<sup>nd</sup> order  
(carrying the leaf comple-  
ments) with short  
internodes at base and  
thick nodes, sometimes  
branching.

Leaf sheath well  
propped, leaves narrow  
but not so small  
as in the others. Sheath  
obovate - top, white.

FAA. 2 nels large  
in ph buds a culm  
sections and 2° with  
leaves and + culm  
sections.

Photos: B. & W. roll # <sup>25</sup> V-10  
ilting a roll # <sup>25</sup> ~~10~~  
1 to -

Ekten: roll # 26 - lost  
6 ± - and roll # - Ekten  
28

long part wasted

*Saccharum villosum* Steud  
det S. Renvoize

April 12

2378

~~Acrostichum~~

M. Japuremano - ± 22 km  
from Yaguap. city  
on Rd to Apurimac

Near patch of forest  
with *Atractodes*.  
In swampy depression  
in some part in  
mud or water.  
Tall grass in clumps  
up to 2.50 m +.

FAA - IV. grass with  
leaves a in flwr -  
Borg - 1 nels in flwr -

April 13

2379

Men. Jaguaquara, ca. 9.5 km SE of  
Meritachy (joso in flower)  
Jaguaquara, Faz. Mundo Novo. Elev. 700 m.  
Dominant to the throughout medium dry  
forest, forming dense clumps, the culms  
leaning over trees, up to 15 m. Culms with  
thick walls, hollow in small branches,  
otherwise filled with soft pith;  
surface asperous, up to 2 cm in  
diam. Nodes with prominent nubs  
and many thick branches. Culm  
leaf long, narrow, triangular at the  
tip with extremely reduced blades,  
present only at the top of new  
culms, with keel-like. Sheath drying part  
on upper part and becoming reflexed. Found  
in past flowering stage, but only in  
one small patch.

2380

April 13.

2380

Meritachy

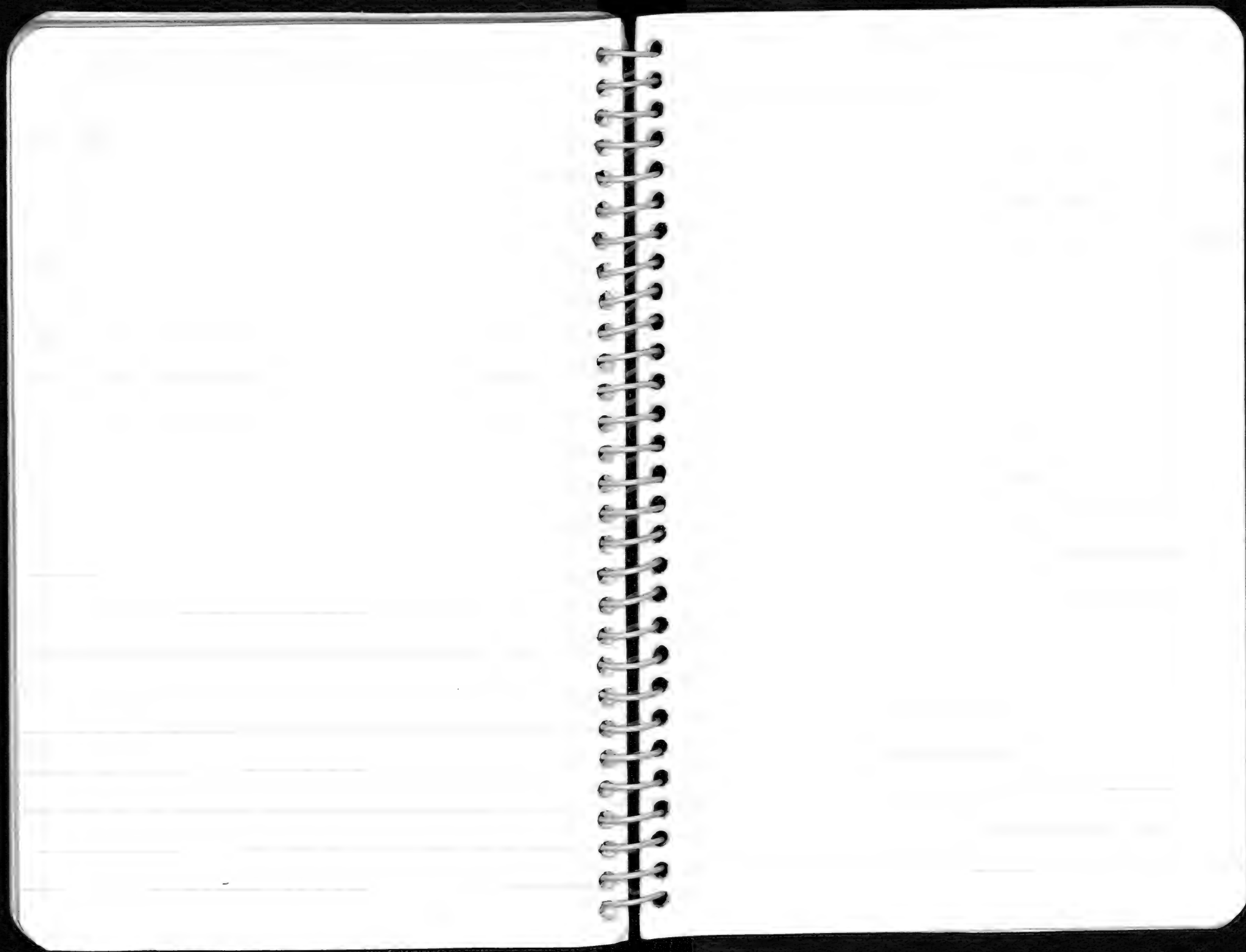
Men. Jaguaquara, ~~Faz. Mundo Novo~~  
ca. 9.5 km S.E.  
of Jaguaquara, Faz. Mundo  
Novo. Elev. 700 m.

Growing in a patch of  
medium dry forest where  
another species of Meritachy  
~~is dominant~~ (C.E.P. 2379) is  
dominant. Culms hollow,  
leaning over trees; 1.5 m in



diameter and shrub to  
10-12 m high. Surface  
of culm smooth, covered  
by a white wax. Culm  
leaf, deciduous with reflexed  
blade. Foliar leaves  
with curly, white, oral  
setae.







lost back completely -  
of M. Thoma -

- 15 20<sup>+</sup> to 20<sup>+</sup>  
32 M. Thoma, thick  
brakes - fairly good -

Roll 18 (Extra-e) (18 B & W)  
1<sup>st</sup> Thoma?

Microfiling top some fog -  
100 good -  
Rego lots of things  
do to more - 2

Roll 19 B & W April 9  
Microfiling - 750 m. fog -  
100 good -  
Thoma the same fog -

Roll # 20 E & W -

April 9 - Microfiling Thoma  
7 to 8? and some - but  
when going - date 22.  
April 10: Thoma 1 egg -  
to Thoma -

Roll # 21 April 8 E & W  
Microfiling for 100, and  
750, Thoma -  
Thoma to - date 15/17

Pat stopped - but  
with wife and OK  
the slope line, report  
to west corner -  
Microfiling for 100 -  
April 9  
Benthos?  
and Microfiling of Thoma -

Roll # 17 B. & W.

2-7. passage to the lake

passage to the lake

here Monday. (Foggy)

(Monomina)

7 to 15 + back

back to camp of

M. T. T. T.

15 to 20. 30 Monday  
(Much birds -

Roll 16 Photo

1 - to 20 ± M. T. T. T.

Le. for T. T. T. 5, 6

(in between - passage to

some can follow to

the lake & Monday  
the bird is probably a

21

St. Oliveira

R. D. Moreira 163

to the 10 day old mother

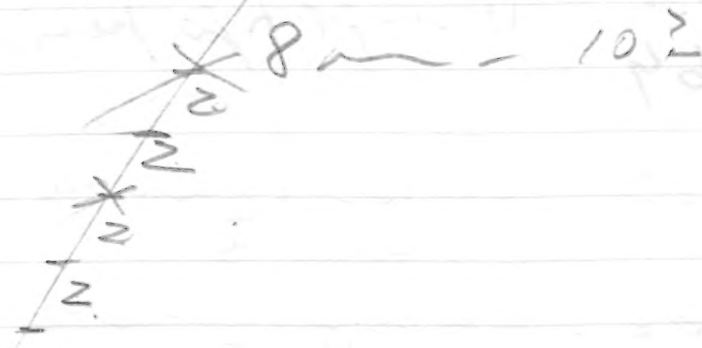
For the first time

helps in 1104 of the 100

2377



2378



- 61 ~~recesso~~  
 2362. *Ichneumon* - inf + free  
 2363 - 11 inf k/po parian.  
 2364 *M. n. n. n.*  
 2365 *Olyra (f. n. n.)*  
           *ident*  
 2366 - *Menstachy flore* -  
           *seedling*  
 2367 *Menstachy flore*  
           *in cl. n. n. n.*

Calderon  
 note book

- 61 *renesio*  
 2362. *Ichneumon* - infl + frs.  
 2363 II infl tip panicle.  
 2364 *Monocorypha*  
 2365 *Odynerus (f. m. the)*  
 (locust)  
 2366 - *Monocorypha* fls -  
 seedling  
 2367 *Monocorypha*  
 in clutches?

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